

Amendments to the Specification

Please replace the paragraph beginning on page 9, line 24 and ending on page 11, line 2, with the following amended paragraph:

Referring to Figures 4 and 5, one embodiment of a main support grid 46 is illustrated basically includes a plurality of interleaved inner and outer straps 76 and 78 arranged and connected together, such as by welding, in an egg crate configuration to define a plurality of hollow cells 74 open at their opposite ends. Figure 4 illustrates a 15 X 15 array of cells 74, though it should be appreciated that the application of the principles of this invention are not affected by the number of fuel elements in an assembly and the assembly could just as well have a ~~15-17~~ X ~~15-17~~ array of cells 74 such as is illustrated in Figure 6. The lattice straps, which form the orthogonal members 76 and 78 shown in Figure 4, are substantially identical in design and are better illustrated in Figure 5. While the lattice straps 76 and 78 are substantially identical, it should be appreciated that the design of some lattice straps 76 may vary from other lattice straps 76 as well as some straps 78 vary from other straps 78, to accommodate guide tube and instrument tube locations. Reference character 82 in Figure 4 identifies those cells that are attached to guide tubes and instrumentation thimble while reference character 84 refers to the remaining cells which support fuel elements. Figure 5 provides the best view of the orthogonal intersections between lattice straps 82 and 84. Most walls of the cells that accommodate fuel elements are provided with a number of stamped, protruding segments that are tooled by appropriate dyes as is known and used in the industry. The spring and dimple pattern shown in Figure 5 is for a conventional main support grid 46 with the spring portion identified by reference character 86 and the dimples represented by reference character 88. The upper and lower

stamped segments 88 bulge out in one direction and form dimples for supporting the fuel elements against juxtaposed diagonal springs 86, which protrude from the opposite cell wall. The remaining centrally-located stamp section 86 in the same wall as the previously described dimples 88 bulges in the opposite direction into the adjacent cell and forms a diagonal spring for pressuring the fuel element against dimples 88 which protrude into the adjacent cell from its opposite wall. The walls 90 of a main support grid are typically 5.2 cm high.

Please replace the first full paragraph beginning on page 11 and wrapping to page 12 with the following amended paragraph:

In the preferred embodiment of this invention, the auxiliary vibration resistant grids preferably take the form illustrated in Figures 6 and 7. From Figure 6, it can be seen that the dimples and/or springs 88,86 are coplanar and contact the fuel rods on multiple sides to provide additional rod support. In this embodiment, the springs are vertical rather than on a diagonal. As stated previously for the main support grids, the location of the vibration-resistant auxiliary grids are fixed relative to the fuel assembly at the thimble locations either by welding the grids to insert tubes or by mechanically fastening the grids to the guide thimble tubes. The outer grid strap 72 and the intermediate straps 76 and 78 on the auxiliary grids are smaller in height than the corresponding dimensions of the main support grids 46. The height of the auxiliary grids is, for example, 1.6 cm. There are no mixing vanes on the preferred embodiment of the vibration resistant auxiliary grid as shown in Figure 6, while a plurality of the main support grids 46 include mixing vanes, for example, of the type illustrated by reference character 92 in Figure 5. The outer strap of the auxiliary vibration-resistant grids and those of the main support grids include guide tabs 94, illustrated in Figures 4, 5, 6 and 7 that

prevent hang-up with adjacent fuel assemblies during removal or insertion out of or into the reactor core. The inner straps 76 and 78 on the auxiliary grids provide for a larger contact area between the dimple/springs and the fuel elements than are provided by the corresponding contact areas on the main support grids 46. The contact lengths for the vertical springs and dimples on the auxiliary grids are ~~.5~~2.54cm as compared to a corresponding contact length of ~~2.54~~.5 cm on the main support grids. This latter feature plus the location(s) of the auxiliary anti-vibration support grids 68 in the fuel assembly 16 eliminate the fuel rod instability that leads to grid-to-rod fretting in high crossflow plants with pressure relief holes. In most other respects, the auxiliary support grid is constructed in the same manner noted for the main support grids. Preferably, in a 14 foot assembly, three auxiliary vibration resistant grids are positioned between adjacent mains support grids approximately within the middle third elevation along the assembly.